A Ph.D. Synopsis Entitled

“Impact of Information Technology in Library Management with Special Reference to College Libraries under SRTM University, Nanded.

Submitted to

स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेड.

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Introduction:

Information technology has profound effect on the progress and development of human civilization. The advances in science and technology has made a tremendous improvement and changed all activities of present society. Due to revolution of information technology demand, consumption, and importance of information in present increase tremendously society. Information technology is currently taking center stage and transformed the whole world into a global village with a global economy, which is increasingly dependent on the creative management and distribution of information. The enormous advantages it has in easing the delivery of information around the world. The acquisition of knowledge has therefore been the thrust area throughout the world. The economy of present times depends no longer on visible resources and capital goods but on invisible knowledge and information.

Information technology application in library and information field has made remarkable progress in the world. Information Technology not only affects the technical services of libraries but also shapes the library services that are being offered to the public. Worldwide libraries have been exploring new technologies for providing better and faster access to vast information resources and efficient information services to their users. Information Technology has offered better solutions to achieve greater level of efficiency, productivity and excellence services in libraries. Academics have undergone tremendous change over the years, assuming new dimensions influenced by technology driven applications. Libraries are mainly entrusted with a host of predetermined tasks like acquiring, organizing, preserving, retrieving and disseminating information to

the user. From ancient times to the present Internet age, the primary objective of library has always been this. However, the way this purpose has been achieved has drastically changed.

Information technology has influenced the very nature of business and management libraries. The conventional set up of brick and mortar libraries that store information within a constrained physical space have given way to data centers that integrate data sources around the globe by the means of networking. With the advancement in technology and its direct application to libraries, management libraries are becoming lean and agile libraries that streamline information supply. The pervasive nature of Internet, coupled with platform independent database connectivity, is making library portals more and more effective. The technological tools for disseminating information have progressed from conventional books and journals to electronic journals and online databases, making it possible to explore the worldwide pool of knowledge while sitting at one's desk or at home.

Information is an indispensable for human development as air is essential for the survival of all living organisms on earth, including human beings. The pace of change brought about by new information technologies has a key effect on the way people live, work, and play worldwide. The increasing role played by information technology in the development of library services for an active reaction to the challenges of the information service providing.

Role of Libraries:

In the modern knowledge society libraries have a new role and there are various types of library models. In the modern society, where the use of electronic services and Web-based information sources constantly increases, libraries are managed in a more democratic way, have more flexible communication system and work organization, and their service development is based on the quality and user-orientation of services. In the modern knowledge society libraries have a new role and there are various types of library models. These are as follows:

- Traditional library as a memory institution.
- Library as a learning and research Centre.
- Library as a cultural and communication Centre.
- Electronic library.
- Digital library.
- Virtual library.

In the 21stcentury, libraries have to perform pivotal roles in disseminating and sharing the culture of knowledge. In this age of knowledge libraries should be repositories of all of the knowledge and information accumulated by human kind. They will have to store all kinds and forms of material and information and disseminate beyond the geographical boundaries. Today's advanced information technology is enabling libraries to accomplish this immense task.

Exchange of knowledge has always been the most important objectives of libraries. Various systems have been developed to share and exchange the records of human knowledge. The modern libraries certainly cannot be passive repository for books and other printed materials. The opposite requirements of storing increasing collection in various forms and of maintaining easy access to most part of it can only be balanced by deploying information and communication

technologies. Libraries should upgrade their services by digitizing their resources for online use. These services should be accessible to anyone, regardless of time or location, through digital communication devices. Libraries can play significant role in providing a good education and knowledge of high quality. Individuals around the world, no matter how poor they may be, can access whatever knowledge and information they need by visiting libraries via the internet.

Library Management:

Library management includes the following activities which will certainly be geared up by the use of these fast IT developments - Classification, Cataloguing, Indexing, Database creation, Database Indexing.

1. *Library Automation* - Library automation is the concept of reducing the human intervention in all the library services so that any user can receive the desired information with the maximum comfort and at the lowest cost. Major areas of the automation can be classified into two -organization of all library databases and all housekeeping operations of library.
2. *Library Networking:* Library networking means a group Libraries and information Centers are interconnected for some common pattern or design for information exchange and communication with a view to improve efficiency.
3. *Audio-Video Technology:* It includes photography, microfilms, microfiches, audio and tapes, printing, optical disk etc.

Role of INFLIBNET in Library Management:

Inflibnet has played major role in bringing IT culture and establishing IT infrastructure in Indian Universities. It is involved in modernizing university libraries in India. To create awareness about library automation and spread IT culture among library professionals, Inflibnet organizing;Inflibnet Regional Training Programme on Library Automation (IRTPLA) in different regions of the country. Recently it has initiated subscription of the E-Journals for academic libraries in India. Inflibnet has played major role in library automation. SOUL designed and developed by INFLIBNET, which is cost affective and user friendly software has been installed in 170 universities in India.

IT Applications in College Libraries:

Now a days there are several information communication technology for various housekeeping, management and administrative functions of the library, different electronic and digital media, computer aided electronic equipment, networks and internet has provided significant role in retrieval and dissemination of information and playing an vital role for modernization of libraries main of them are:

1. ***Library Automation:*** Library Automation is the concept of reducing the human intervention in all the library services so that any user can receive the desired information with the maximum comfort and at the lowest cost. Major areas of the automation can be classified into two-organization of all library database and all housekeeping operations of library.

2. ***Library Networking:*** Library networking means a group of Libraries and Information Centers are interconnected for some common pattern or design for information exchange and communication with a view to improve efficiency.
3. ***Library Management:*** Library Management includes the following activities which will certainly be geared up by the use of these fast ICT developments, Classification, Cataloging, Indexing, Database creation, Database Indexing.

4 Digital Library: A digital library is an assembled of digital computing, storage and communication machinery together with the content and software needed to reproduce, emulate and extend the services provided by conventional libraries based on paper and other material means of colleting, cataloging, finding and disseminating information. A full service digital library must accomplish all essential services of traditional libraries and also exploit the well-known advantage of digital storage, searching and communication. It provides access to part of or all its collection, such as plain texts, images, graphics, audio and video materials and other library items that have been electronically converted, via the internet and www.

5 Technical Communication: Technical Communication consisting of technical writing, editing, publishing, DTP systems etc.

Impact of Information Technology on Library Services:

The growth of information and the dependency on it have paved the way for the information society and subsequently the knowledge society. Information has always been prime factor for the development of society and is often regarded as a vital national resource.

Information services try to meet this objective. Information has become important part of our lives and should be available when needed. Information services are generated using new tools and techniques to facilitate the right users to the right information. The implementation of information technology in the libraries has demanded new forms of library services to get more user satisfaction. Digital library service has evolved after the implementation of IT in the library and information centers. Information technology has had a significant impact and has successfully changed the characteristics of information services being generated in libraries.

The past two decades have seen great changes in library due to information technology. The technological advancement have made significant impact on the growth of knowledge and unlocking of human potential. In library, the impact is clearly visible on information resources, services, and people. One of the distinct gifts of information technology has been the invention of devices with huge storage capacity. CD-ROM's, DVDs and flash memory cards have changed the face of libraries. Online access to information has turned many libraries into '*Virtual Libraries'*. Now Libraries are changing the way in which information is stored and disseminated to users. The next benefit of IT is the automation of library activities.

Many in-house operations in the library like acquisition, processing, circulations, maintenance, serial management are changed manual to automation. The need for automation arises as to reduce the effort a time required for these jobs. Now many software are available in market for library automation. IT has helped in establishing library networking and resource sharing through internet and intranet. Library networks have expanded the limitation of the

scope of resource sharing and information exchange. Today internet is the major resource for librarians. Application of IT has contributed the improvement in provision of quick, quality services in the libraries. Another impact is remote access of variety of commercial and non-commercial information sources i.e. online full text databases, e-journals, e-books, library catalogue etc. The present day information seekers can access the worldwide information through internet on their desktop without any time limitation.

Computer has brought in a new impact to the library and information usage. In libraries, information technology has assisted library professionals to provide value added quality information service and give more remote access to the inter-nationally available information resources. Today's highly sophisticated information technology to facilitate the storage of huge amounts of data or information in a very compact space. Information technologies promise fast retrieval of stored information and revolutionize our concept of the functions of a traditional library and a modern information center. Recently technological developments have dramatically changed the mode of library operations and services.

Modern ICT is impacting on various aspects of libraries and the information profession. Advancements in ICT and the wide spread use of ICT is resulting in digital information sources and digital media replacing and becoming the dominant form of information storage and retrieval. ICT also survives and makes true rules of Library Science 'every reader his/her book/information', 'Save the time of the reader', 'Library is a growing organism'. ICT with its tremendous information sources, rapid transmission speed and easy access ensures the satisfaction of the user with complex demand, break down the distance barrier and shortened the time required and ensure the right

information to the right reader at the right time. It also increases and solves the library's demand of collection development. It is really an excellent tool for the Library information centers.

Swami RamanandTeerth Marathwada University (SRTMU) Nanded:

The Swami RamanandTeerth Marathwada University was established at Nanded by bi-furcating the Marathwada University, Aurangabad on 17th September 1994. Nanded is a district headquarters as well as a holy city situated on the banks of Godavari River in southeastern part of Maharashtra state.Nanded is directly approachable by road and train from Aurangabad (270 km) and Hyderabad (270 km), Nagpur (350 km), Mumbai (600 km) and Delhi (1700 km). Weekly three flights run between Mumbai and Nanded.The University has been named after Swami RamanandTeerth the Doyen of the Hyderabad Liberation Struggle and also a renowned educationalist and social activist. The University is to cater for southern part of Marathwada Region of Maharashtra State, specifically to the districts of Nanded, Latur, Parbhani and Hingoli.

The University Establishment Committee had visualized a region specific University with non-conventional courses with a School system for Campus teaching to initiate and promote interdisciplinary and multidisciplinary studies. The university has redesigned its syllabi and courses in order to generate the human resource for the regional development. The courses are characterized by innovative ways in teaching, learning and evaluation with emphasis on the aspects of research, consultancy and extension services. In the short time of operation the University has been granted recognition by the University Grants Commission, the apex educational body of

Government of India, under 2(f) in March 1995 and under 12 (B) in May 1998, before completion of five years. It has been Accredited by NAAC in 2009 with B grade & re-accredited by NAAC in 2015 with A-grade.

Review of Literature:

A huge amount of literature is available on the use of Information Technology in College Libraries of India. Here is a brief overview of the most relevant studies to the subject. This section includes studies related to the application of information technologies in Academic libraries of different states of India.

1. **Colin Storey (1995) -** Briefly describes the recent history and development of information technology in Hong Kong Polytechnic University Library in all areas of operation. The Library installed the Data Research integrated online library system in 1989, and in early 1991 reorganized its management structure in order to respond more quickly and efficiently to the demands of the information revolution. Taking the revolution in information technologies as an exemplar, analyses the effects such fundamental changes have had on the management and organization of the Polytechnic University Library, and the positive responses made by professional librarians to the challenges facing the library service. In particular, focuses on the management of human resources to meet the burgeoning growth and development of electronic systems. How can senior library staff be organized most effectively to exploit the new technology to the benefit of their users? What practical steps can be taken to train academic staff and students in the availability and use of systems?

2. **SatishKanamadi and B. D. Kumbar (2007) -**Management libraries are facing a piquant situation and unforeseen challenges in this age of information technology. They are reeling under pressure to fulfill their obligation of meeting the diverse information needs of clientele. IT has brought in sweeping changes in the traditional way libraries are functioning. Libraries need to evaluate, measure the impact of information technology on them. This will equip them with the knowledge of turning this information Technology into a boon for improving their services.

3. **D K Singh and Mohammad Nazim (2008) -** The paper discusses the impact of information technology and role of libraries in the age of knowledge and information societies. It also highlights the problems faced by the Library & Information Service (LIS) sector in India and achievements over the years using modern information technologies.

4. **A Vijayakumar and Sudhi S. Vijayan (2011) -** The paper attempts to discuss the fast development of Information Technology and its application in the library services. Today libraries are equipped to accomplish the newly Information Technology based services. Information Technology enabled services fulfill the information needs of the users at the right time in the right place to the right person.

5. **GulamRasul and Ashok Kumar Sahu (2011) –**The librarians are faced challenges to managing massive volume of

information for storage, process, retrieve, and disseminate in libraries. Rapid advances in Information Technology in the past two decades have brought revolutionary changes in the concept, organization, functioning and management of library and information systems throughout the world. The modern technology has greatly improved the capabilities of managing this explosive growth of information effectively. Information technologies today are characterized by their very dynamic development and increasing complexity. Information technology application in library and information field has made remarkable progress in the world. Information Technology not only affects the technical services of libraries but also shapes the library services that are being offered to the public. Worldwide libraries have been exploring new technologies for providing better and faster access to vast information resources and efficient information services to their users. Information Technology has offered better solutions to achieve greater level of efficiency, productivity and excellence services in libraries.

6. **VenkataramanaPeyala (2011) -** This article present the results of a research study conducted to assess the perceptions and opinions of 100 staff working in libraries on the impact of using IT on library housekeeping operations and information services, in eight central university libraries in India. Data gathering tools used include questionnaire, observation and informal interviews with selected library professionals. Information technology had a tremendous impact on the efficiency of library operations and the delivery of information services. Use of IT has facilitated networking and resource

sharing, eliminated duplication of effort, improved the speed of operations, increased access to information resources and improved the quality of information services.

7. **SantoshDnyanobaraoKadam (2013) -**The study highlights the use of Information Communication Technology at the degree engineering college libraries in Maharashtra State. Efforts were made to know the availability of hardware, status of library automation at these engineering college libraries. The paper also highlights on the availability of internet connectivity, digital library facilities and barriers in the application of ICT are also discussed .The results of the study shows that majority of the libraries were effectively using Information Communication Technology.

8. **A. Saleem, ShabanaTabusumand M. SadikBatcha (2013) -**Information is considered as fifth need of human in ranking. In this paper the study has been done a research for application of Information communication Technology (ICT) and uses of ICT tools in Academic Libraries, to find out the application of ICT skills in LIS Professionals and to modernize the Libraries, the study has been done in Engineering Colleges and Arts & Science Colleges, and How ICT tools are applied to provide innovative services to the users.

9. **Ajay Kumar Sharma (2014) -** The advancement of science and technology has made a tremendous improvement in the lifestyle of the society today. It has affected almost all walks of life. Especially, the magnetic words, Information Technology has

been chanted in all corners of the global arena and incorporates in organizational, managerial, developmental and marketing sectors. The services rendered with the help of Information Communication Technology (ICT) are faster and more effective. Libraries are not exempted from the impact of the Information Communication Technology. The implementations of ICT in the library and Information Centers have made a tremendous improvement in the management of these centers. This has made the library more users friendly and has increased the efficiency of the library professionals. This study of this paper is carried out in the four different Libraries of Dehradun, where the ICT is implemented in the management of the library. It's an extensive study carried out to find the potentiality of LMSs in managing the print and non-print resources and to find the responses of the users' perception towards the benefits of this technology.

10. **ArchanaSaxena and T. N. Dubey (2014) -**The paper discusses the impact of digital technology and role of libraries in the age of knowledge and information societies. It also highlights the problems faced by the academic libraries in India in implementation of digital technology. This paper is based on secondary resources, the findings shows that notable number of digital resources were found in the academic libraries of different states of India such as Tamil Nadu, Karnataka, Rajasthan, Kerala and Uttar Pradesh though still the collections need to be increased in numbers, in this regard this paper concludes with some specific suggestions to increase digital resources in Academic Libraries of India.

The survey of literature has given an insight into the research carried out in the related fields of study. Further, it has helped to know the tools and methods relevant for the study. Majority of the studies are conducted with the help of questionnaire survey and personal interview. It is clear that technological change clearly affects library staff and there is a need to develop guidelines and policies to train the professionals in providing frontline services in academic libraries. There was no such types of study undertook by any researcher under the SRTMU region; that's why the researcher selected the topic for the present study.

Statement of the problem:

Considering the above literature survey, the statement of the present study is entitled as "*Impact of information technology on professional development of Library Management in the NAAC Accredited affiliated colleges of SRTMUniversity Nanded*". It is hoped that the study will give an insight about how far the librarians have been able to be abreast of the advances in information communication technologies, their professional development activities, whether their education in library and information science has helped them in handling the latest technologies and their need for further education and training in the profession. CollegeLibrarians feel the lack of staff, space and time for the better presentation communication and dissemination of information to their users.

Need and Importance of the Study:

In the present ever changing information environment, libraries are encountering both opportunities and challenges. Information technology has introduced many changes in the way information is identified, procured, processed and disseminated to library clientele. Furthermore, information technology has created a sense of urgency among library users and librarians themselves. Management libraries and information centers are witnessing new paradigm shifts. These shifts include:

- Transition of information sources and systems from paper to electronic media.
- Complexity in information needs of highly demanding clientele.
- Increase in the cost and quality of information.

It is an accepted fact that the information technology has influenced all the components of a library system - information sources, services, human resources and users. The study is confined to the impact of IT on library management in NAAC accredited affiliated colleges under SRTM University Nanded. The main aim of the study is to measure the respondents' ICT information needs and their information seeking behavior in collecting ICT resources. Further their attitudes towards ICT information also measured. It also proves how far ICT information makes impact on the access pattern among the users. In the Information Communication technological world, knowing the respondents' changing attitude towards ICT information is very essential. In this context the study is needed in the present scenario.

Objectives of the Study

The aim of this study is to measure the impact of Information Technology (IT) on College Library Management practices. The specific objectives are to:

1. To study the role and importance of Information Technology in College Library management in India.
2. To assess the existing information technology infrastructure available for college libraries in Maharashtra.
3. To study the existing college library management practices in affiliated colleges of SRTMU Nanded accredited by NAAC.
4. To evaluate the professional development activities of library professionals in the NAAC accredited affiliated colleges of SRTMU Nanded.
5. To examine the impact of information technology innovations on management practices of college libraries affiliated to SRTM University of Nanded.
6. To understand how conventional library and information Services, can be delivered more efficiently and effectively by using ICT.
7. To find out the problems and challenges faced by College Libraries in the effectiveuse of IT applications in library management.

Hypothesis:

The following hypotheses will be formulated for the present study:

1. Sufficient IT infrastructure facilities are not available in college libraries.

2. Sufficient funds are not provided to college libraries to equip the libraries with ICT facilities.
3. College's management was unaware about advanced IT facilities for college libraries.
4. Library professionals' (Librarian) ICT skills and awareness of various technologies depend on their personal attributes.

Research Methodology, Analysis and Interpretation of Data:

Research Methodology has its importance in scientific investigation objectives in any research investigation cannot be obtained unless it is carried out in a very systematic and planned manner. Scientific investigation involves careful and proper adaptation of research design, use of standardized tool and test identifying adequate sample by using appropriate statistical techniques for analyzing the data for the study.

The research will be carried out among the college librarians. This research study is to measure the impact of Information Technology (IT) on management of college Libraries. The study will have a sample of NAAC accredited affiliated colleges libraries from SRTM university jurisdictions i.e. from Nanded, Latur, Parbhani and Hingoli districts. The purposive sampling technique will be selected from out of the regular college library. Both qualitative and quantitative data will be collected. The instrument for data collection consisted of structured (open/closed-ended) questions. The questionnaire will be administered to a sample of librarians to collect data on their perceptions of quality of service with application of IT at library.Both primary and secondary data will be used for the present research. Primary data will be collected from the college libraries (Academic Libraries). The Secondary data will be collected from the

web sites and prospectus of institutions, Research journals, Magazines, Reports and conference proceedings.

The present study is to utilize a combination of literature review, questionnaires and personal interviews for data collection. Literature review will be useful in collecting textual data from published and unpublished sources. The questionnaire method is quite useful in soliciting information from the college librarians. Hence, the data collection for this study will be a combination of primary as well as secondary data. The survey will be undertaken with the help of questionnaires designed for the purpose. While designing the questionnaire, mix of closed and open-ended questions will be asked To enhance the response rate, multiple-choice questions will be included in sufficient numbers. Interviews will also be held with the librarians to interpret the questions to them and to collect the data. The following table shows the total affiliated colleges of SRTMU Nanded and criteria for sample selections.

Table:List of Affiliated Colleges and Samples Selection:

Sr.	Name of District	Total Affiliated Colleges (As on 31/03/2016)	NAAC Accredited Colleges (As on 31/03/2016)	Sample Colleges Selected
1	Nanded	132	26	26
2	Latur	80	25	25
3	Parbhani	141	15	15
4	Hingoli.	36	04	04
	Total:	**389**	**70**	**70**

There were four districts viz. Nanded, Latur, Parbhani and Hingoli are under the jurisdiction of Swami RamanandTeerth Marathwada University Nanded. Total 389 colleges were affiliated to the SRTMU Nanded in the four districts. Out of 389 colleges; only 70 (18%) colleges were ranked by NAAC. All the NAAC accredited colleges (100%) i.e. 70 NAAC Accredited Affiliated Colleges from all the four districts will be selected as population sample for the present research work.

Data Collection and Analysis:

A total of 70 questionnaires will be distributed to librarians of selected affiliated colleges under SRTM University Nanded. Questionnaire is consisted of structured close-ended and open-ended questions. Scientific Statistical methods will be used to give a general picture about the result of this study. Responses will be presented graphically with description SPSS software. Statistical tools like frequency distribution, Compare means, factor analysis, GAP analysis were used to analysis the data. And some responses will be presented in graphically.

Researchers shall be visited in person to all the libraries of selected affiliated colleges of SRTM University of Nanded and met with the librarians. Repeated checks and reviews will be done on the questionnaire. Librarians, teachers and statisticians were consulted to critically review questions and improve their reliability and validity. Data collected from published sources and the questionnaires will be evaluated and analyzed to produce the results. The Software Package for Social Sciences will be used for analysis the data. After interpretation, inferences will be drawn and recommendations will made.

The present study will be used survey method to approach the respondents through questionnaire as an instrument for data collection. The framework was developed using the variables suggested by *Parasuraman*. It consisted of structured, open-ended and closed questions. The questionnaire consists of four parts such as namely respondent's demographic features, expectations, perceptions, overall ratings. The first part consists of personal and demographic information of respondents. The second and third part contains the questions each related to expectations and perceptions on library. All the closed ended questions were designed to be responded to on a five point Likert scale to measure both respondent satisfaction and perception of service quality. The fourth part will contains variables to measure respondent's overall satisfaction level, overall rating of service quality, adequacy of print and electronic resources, IT based facilities and services, and willingness to spread word of mouth recommendations among friends.

Scope and Limitations of Study:

The proposed of study will cover the impact of IT in college libraries from its basic level. In other words the endeavour to study all electromechanical equipment tools and techniques in various housekeeping activities and user services, which will be applied in automation of the college library.The scope of this study is limited to the implementation of Information Communication Technology in the selected libraries affiliated to SRT University Nanded. The study is intended to be carried over the potential implementation of the ICT in library housekeeping operation and its impact upon its users. This study is also intended to evaluate the users' response towards the effective implementation of Information Communication Technology in the libraries. The study covers only college libraries.The other

limitations of the study will be Time, Cost and Area. Area of study has been restricted to Nanded, Latur, Parbhani and Hingoli districts of Maharashtra State only. We will not study all the libraries but only the NAAC accredited selected college libraries. The study will not cover the users (Students) satisfaction about library services.

Organization of Chapters:

The present study is reported in the following seven chapters.

1. Chapter I: Introduction.
2. Chapter II: Review of Literature and Research Methodology.
3. Chapter III: Role and Importance of IT on college libraries.
4. Chapter IV : Information technology infrastructure in college libraries
5. Chapter V: Professional development activities of Library professionals.
6. Chapter VI: Impact of Information Technology in Library Management (Primary Data Analysis).

Chapter No. VII: Findings, Conclusions and Suggestions.

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